REMARKS

In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The rejection of claims 10-11 and 25-27 under 35 U.S.C. § 101 for being directed to non-statutory subject matter is respectfully traversed in view of the above amendments.

The rejection of claims 1-5, 8-14, 16, 18-21, 24-30, 32, 34, 36, and 38-40 are rejected under 35 U.S.C. § 103(a) for obviousness over U.S. Patent No. 6,329,531 to Turner et al. ("Turner") in view of U.S. Patent Application Publication No. 2003/0236458 to Hochman ("Hochman") is respectfully traversed.

Turner relates to *in vivo* and *in vitro* diagnosis of neurodegenerative diseases such as Alzheimer's Disease by means of near infra-red radiation. According to the *in vivo* methods of Turner, one or more dye compounds are fed to the tissue being diagnosed and light from the near-infrared spectral region is irradiated. The non-absorbed, scattered light and/or scattered fluorescence radiation emitted by the dye is recorded simultaneously/individually. Preferred methods are where the tissue irradiates over a large surface, and the fluorescence radiation that is resolved locally is visualized by imaging with a CCD camera or the tissue areas that are to be imaged are rastered with a fiber optic light guide and the signals that are received are converted numerically into a synthetic image. Fluorescence can also be evaluated spectrally and/or by phase selection, as well as in a steady-state manner and/or in a time-resolved manner.

Turner focuses on a class of colorant signal molecules. To the extent this reference discusses how they are used, fluorescent excitation is mentioned which is not consistent with the non-linear process of multiphoton excitation

Hochman teaches methods for optically detecting physiological properties in an area of interest by detecting changes in the intrinsic or extrinsic optical properties of tissue. This involves optically detecting blood flow changes, blood characteristics, and blood vessel abnormalities, as well as determining the presence and location of abnormal or pathological tissue for identifying and mapping the margins of abnormal tissue. According to Hochman, these methods may be used to identify physiological conditions associated with and to evaluate diagnosis of Alzheimer's Disease and other neurodegenerative disorders. Optical detection may involve invasive or semi-invasive systems and may be continuous or non-continuous (*i.e.*, pulsed). Data sets from patients can be compared to standard or control data representative of optical properties indicative of various disease states or conditions.

Longer wavelengths (e.g., approximately 800 nm) can be employed to analyze deeper areas of tissue.

Nowhere do either Turner or Hochman teach or suggest a method involving activating brain tissue of a mammal by application of radiation through an opening or a thinned portion of the mammal's skull to promote simultaneous multiphoton excitation, where the radiation is pulsed at a pulse width between about 10^{-9} to 10^{-15} second, as claimed. Accordingly, the obviousness rejection based on these references is improper and should be withdrawn.

In view of the foregoing, applicants submit that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

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